

REFERENCE
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ja-00.446 (18)
Hexamined

53-50446 Alkaline Cell (Hitachi Maxell) An alkaline-manganese cell is sealed with polypropylene contg 2.6 nylon salt to improve sealing (Pub. 5/8/78, Appl. 10/19/76)

HITM ★ 103 43234A/24 ★ J5 3050-446
Alkaline battery sealed with gasket material contg. polypropylene - added with 216 nylon salt, gasket exhibiting stable stress cracking resistance and good adherence to collector member

HITACHI MAXELL 19.10.76-JA-125694

A85 R47 (A17 A60) (08.05.78) H01m-02/03 H01m-06/04

The 2.6 nylon salt is obt'd. from hexamethylenediamine and oxalic acid. The additional amt. of the 2.6 nylon salt is about 0.1-5 wt. %, pref. about 0.5-1 wt. %. A gasket comprising a mixt. compsn. of polyethylene having a melt index of about 0.2-3 and polypropylene having a melt index of about 0.5-5 (polypropylene content is about 10-40 wt. %) exhibits stable stress cracking resistance and good adherence to the collector member.

Deterioration of gasket at contact surface with cathode collector material whose surface is made of Cu or Cu alloy is prevented, so that the leakage of electrolyte from the contact surface is prevented.

In an example, a gasket comprises adding about 0.5 wt. % 2.6 nylon salt to a mixt. compsn. of 70 wt. % polyethylene having a melt index of about 2 and 30 wt. % polypropylene having a melt index of about 1. 19.10.76 as 125694 (2pp-).

89:166144n Gasket additives for alkaline batteries. Mat=sushima, Seiichi; Moriguchi, Kenji; Taniguchi, Yasuyoshi (Hitachi Maxell, Ltd.) Japan. Kokai 78 50,446 (Cl. H01M2/08). 08 May 1978, Appl. 76/125,694, 19 Oct 1976; 2 pp. Alk. batteries are sealed with leakproof polypropylene [9003-07-0] gaskets contg. a nylon 62 salt (I). Thus, a gasket was prep'd. from a mixt. contg. polypropylene (melt index ~1) 30, polyethylene [9002-38-4] (melt index ~2) 70, and I ~0.5 parts. The leakage was 5%, vs. 17% for battery gaskets without I.

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Ja 50.446 (78) to
Unexamined
English Digest

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Japanese Unexamined Patent Application, 53-50446, May 8, 1978

Title: Alkaline Cell

Application: Oct. 19, 1976 Sr. 51-125694

Inventors: S. Matsushima et al.

Applicant: Hitachi-Maxwell Co.

It relates to a gasket material for use with alkaline cells.

In alkaline cells, neg. current collectors (6, 28) are at least partly made of Cu or brass to provide amalgamated surface to prevent gas generation. The neg. surface is then swaged to a gasket material which is usually a compound of polypropylene (PP) with or without addition of polyethylene (PE). The contact surface deteriorates in time, causing electrolyte leakage.

In this invention, salt of 2.6 nylon is added to PP to prevent deterioration of gasket material. The salt of 2.6 nylon can be obtained by reaction between hexamethylene diamine and oxalic acid. The amount of the salt addition is 0.1-5 wt%, preferably 0.5-1 wt%.

Claim:

Alkaline cell in which gasket material is made of polypropylene contg a salt of 2.6 nylon.

FIG 1

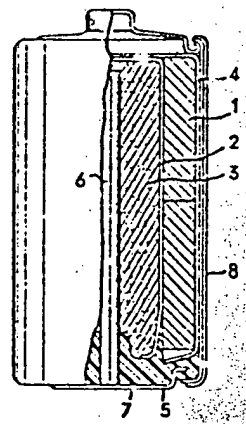
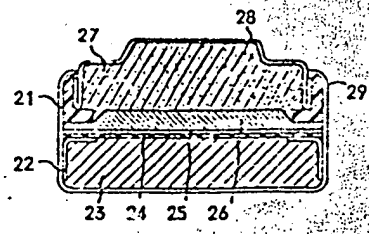


FIG 2



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DPF

27.585 (82)

57-27585 Alkaline Cells (Hitachi Maxell) Polypropylene gasket containing
2,6-nylon salts. (Pub. 6/11/82, Appl. 10/19/76)

A85-L3-(A17-A60)

J8 2027585

Alkaline battery sealed with gasket materia' contg. poly-
propylene - added with 2.6 nylon salt, gasket exhibiting
stable stress cracking resistance and good adherence to
collector member.

The 2.6 nylon salt is obtd. from hexamethylenediamine and oxalic acid. The additional amt. of the 2.6 nylon salt is about 0.1-5 wt.%, pref. about 0.5-1 wt.%. A gasket comprising a mixt. compsn. of polyethylene having a melt index of about 0.2-3 and polypropylene having a melt index of about 0.5-5 (polypropylene content is about 10-40 wt. %) exhibits stable stress cracking resistance and good adherence to the collector member.

Deterioration of gasket at contact surface with cathode collector material whose surface is made of Cu or Cu alloy is prevented, so that the leakage of electrolyte from the contact surface is prevented.

In an example, a gasket comprises adding about 0.5 wt. % 2.6 nylon salt to a mixt. compsn. of 70 wt.% polyethylene having a melt index of about 2 and 30 wt.% polypropylene having a melt index of about 1. 19.10.76 as 125694

HO1m-2/08 (11.6.82) HITACHI MAXELL (2ppWB) (J53050446).

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